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Advisory Announcement

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2020 NORTON SOUND SALMON SEASON SUMMARY

COMMERCIAL SALMON FISHERY

Poor runs of chum and coho salmon resulted in the poorest commercial salmon harvests since the record low harvests of the early 2000s. The sockeye salmon commercial harvest, although the sixth highest harvest on record is only a small portion of the overall harvest. The pink salmon run like recent years was again one of the greatest runs with near record escapements to record escapements at counting projects. However, there was little interest from the buyer in purchasing pink salmon. The king salmon run although lower than last year was improved compared to most runs in the 2010s when there were numerous subsistence fishing restrictions.

Table 1 lists the Norton Sound salmon current year and historical commercial salmon harvests relative to the recent 5-year (2015–2019) and 10-year (2010–2019) averages. The combined commercial harvest of all salmon species was 50,679 fish and ranked sixth lowest in the 60-year history of the salmon fishery. There were 124 commercial permits fished in 2020, slightly below the recent 5-year (140) and 10-year (132) averages. The 2020 fishery value to the fishers of \$290,302 was less than 15% of the value of the fishery in 2019 and the lowest since 2004. This summary should be considered preliminary and will be updated with additions and corrections in subsequent reports.

Table 2 lists the salmon harvests by species, number, and weight in each subdistrict in 2020. This year the coho salmon had an average weight of 5.7 pounds, the lowest on record, and were much smaller than the previous record low average weight that was 6.4 pounds in 2019. Pink salmon were also small this year with an average weight of 2.5 pounds and, although not a record, it was the first time the average weight was below 3 pounds since 2013.

The coho salmon catch of 14,650 fish was less than 10% of the recent 5-year (169,720) average and only 15% of the recent 10-year (117,321) average (Table 3). The coho salmon catch was lowest since 2002 (1,759) and the second lowest in the last 40 years. The chum salmon catch of 26,365 fish was less than 20% of the recent 5-year (151,442) average and 20% of the recent 10-year (127,473) average (Table 3).

Only one salmon buyer operated in Norton Sound during the 2020 season. The Unalakleet fish plant operated by Norton Sound Seafood Products (NSSP) was the base of commercial salmon fisheries operations. Salmon were both delivered to the Unalakleet dock and tendered from all other subdistricts, except from the Nome Subdistrict. The Nome Subdistrict catch was processed at the NSSP plant in Nome and some of the catch from Golovin and Elim was also processed in Nome.

Prices paid per pound were \$3.00 for king salmon, \$1.40 for sockeye salmon, \$1.77 for coho salmon, \$0.20 for pink salmon, and \$.52 for chum salmon. The king, chum and sockeye salmon prices were like last year. Pink salmon had an increase of \$0.07 per pound and coho salmon had an increase of \$0.20 per pound compared to last year.

SUBSISTENCE SALMON FISHERY

Subsistence salmon fishers in the Port Clarence District and Subdistricts 1–3 (Nome, Golovin, and Elim) were required to possess a subsistence permit for each household that fished in these locations. The permits identify the type of gear used and the bag limit and are specific to each body of water. On each permit, the permit holder records the catch in numbers of fish and by species for each day fished. If the subsistence fishers have filled their harvest limit in one river, they can fish in another river. This year, because of coronavirus restrictions, department staff did not visit villages to issue permits and subsistence permit applicants could apply online and print their permits, receive one at the Nome office, or call the Nome office to request a permit.

The only places where there are limits on subsistence salmon harvest are in the Nome Subdistrict, and Pilgrim River and Salmon Lake in the Port Clarence District. Subsistence permits are important to management because they identify users and harvests, but the actual catch information cannot be compiled in most circumstances until well after the season when the permits are returned. In southern Norton Sound, villages are surveyed to estimate the subsistence harvest and likewise this information is not available until well after the season. A seasonal employee who resides in Unalakleet will conduct surveys in that community while maintaining social distancing protocols. Surveys will be conducted via telephone for other southern Norton Sound communities.

SEASON SUMMARY BY SUBDISTRICT

Nome - Subdistrict 1

This was the eighth consecutive season that commercial fishing was allowed since the mid-90s. There were 12 permit holders that fished in 2020 and that was more than the 7 permit holders that fished the two previous seasons. The salmon runs in Nome Subdistrict are usually much lower in numbers compared to other subdistricts but in 2020 the salmon runs were surprisingly better than elsewhere. The coho salmon commercial harvest of 6,639 fish (Table 2) was the 3rd highest on record trailing the 2018 record catch of 9,080 fish and last year's catch of 7,832 fish. The sockeye salmon commercial harvest of 692 fish was the second highest on record and just below last year's record catch of 742 fish. The chum salmon commercial harvest of 7,098 fish was the 13th highest in history.

In recent years, subsistence fishing opportunity has been liberalized in the Nome Subdistrict by increasing marine gillnet fishing time from three days a week to five days a week west of Cape Nome and seven days a week east of Cape Nome. Also, freshwater gillnet fishing time has been increased from two 48-hour fishing periods a week to five days a week.

Observations during the season indicated that the Nome River was once again the river that had the most fishing effort. Nome Subdistrict had below average chum salmon escapement, well above average pink and sockeye salmon escapement, and average to above average coho salmon escapements.

Golovin - Subdistrict 2

The chum salmon commercial harvest of 11,530 (Table 2) was less than one-half of last year and ranked 7th highest since fishing resumed in 2008. The coho salmon commercial harvest of 1,963 fish was 75% of last year and ranked 8th highest since 2008. There were 17 permit holders that fished in 2020, one less than the 18 permit holders that fished the last two years.

The Fish River tower was in operation for the seventh year, but high water obscured fish passage for most the season and less than three weeks of counting occurred. However, that short duration of counting did confirm the huge pink salmon run with two days having record counts of over 500,000 pink salmon daily and an escapement of 2.7 million for the limited counting period (Table 4).

High water prevented an aerial survey of the Niukluk River and Ophir Creek to determine if the coho salmon aerial survey goal had been reached.

Elim - Subdistrict 3

Commercial fishing was very limited compared to recent years. The chum salmon run was much poorer than expected and the coho salmon run was below average compared to the record runs in recent years. The salmon harvest was 3,538 fish (Table 2) and was less than 10% of the recent 5-year average of over 50,000 salmon harvested.

The pink salmon run was well above average but there were no participants in the pink salmon directed fishing periods. The chum salmon commercial harvest of 853 fish was lowest in over 10 years and a fraction of the 21,000 fish average harvest of the previous 5-years. The coho salmon commercial harvest of 2,011 fish was less than 15% of the recent 5-year average.

The Kwiniuk River tower, which began in 1965, is the longest running escapement project in Norton Sound. Escapement counts were 408 king salmon, 4,953 chum salmon, 1,747,766 pink salmon, 87 sockeye salmon, and 5,373 coho salmon (Table 4). King salmon passage was above the escapement goal of 250 fish for the first time in 5 years, but the chum salmon passage was below the escapement goal range of 9,100-32,600 fish for the first time since 2016. Pink salmon escapement was the 5th highest in the 56-year project history. The escapement goal for coho salmon is an aerial survey goal of 650–1,300 fish and was likely met based on the tower count, but no survey was flown because of poor weather conditions and aircraft availability.

Norton Bay - Subdistrict 4

Commercial fishing was very limited and catches of chum and coho salmon were poor when fishing did occur. The commercial salmon harvest of 681 fish (Table 2) was the lowest in any year in the 29 years that commercial fishing did occur. The pink salmon run was well above average but there were no participants in the pink salmon directed fishing periods.

A counting tower on the Ungalik River was operated by Norton Sound Economic Development Corporation (NSEDC) for the second year. High water resulted in a late start to counting but the pink count was still nearly 1 million fish (Table 4). The Inglutalik River tower also operated by NSEDC did not begin operations until July 30 and the late start eliminated comparisons of counts in previous years of the 10-year project history.

Shaktoolik and Unalakeet - Subdistricts 5 and 6

Both the Shaktoolik and Unalakeet subdistricts share a common commercial fishing boundary and management actions typically encompass both subdistricts because salmon tend to intermingle and the harvest in one subdistrict affects the movement of fish in the adjacent subdistrict.

The salmon runs to Shaktoolik and Unalakeet subdistricts are usually the largest in Norton Sound and in most years, the Shaktoolik and Unalakeet combined harvest is well over half of the total Norton Sound commercial salmon harvest. However, in 2020 the salmon runs were very poor except for the king salmon run that was above average and the pink salmon run that was well above average. However, there was minimal fishing effort during the one directed pink salmon fishing period. Otherwise commercial fishing was limited to one 24-hour period per week and chum and coho salmon catches were well below average.

The Shaktoolik Subdistrict chum salmon commercial catch of 3,864 fish (Table 2) was the lowest since the early 2000s and the coho salmon commercial catch of 1,645 fish was the second lowest in over 40 years. Likewise, the Unalakeet Subdistrict chum salmon commercial catch of 2,642 fish was the lowest since the early 2000s and the coho salmon commercial catch of 2,141 fish was the second lowest in over 40 years.

High water prevented the operation of the Unalakeet River floating weir and delayed the start of Shaktoolik and North River counting towers. The chum and coho salmon escapements were well below average and the pink salmon escapement was well above average. The king salmon escapement was average, but the North River king salmon escapement was below the low end of the escapement goal range and the late start to counting likely resulted in the lower king salmon count (Table 4). No restrictions were taken on subsistence fishing and the normal king salmon fishing schedule occurred for the first time in several years and subsistence fishermen reported very good king salmon catches.

Port Clarence District

Port Clarence District is the salmon district immediately to the northwest of the Norton Sound District and it has the largest run of sockeye salmon in Norton Sound. However, this year the sockeye salmon run was below average compared to recent years.

Sockeye salmon return to Salmon Lake via Pilgrim River which is easily accessible by a road from Nome. Permits have been required for subsistence salmon fishing in Pilgrim River since 1964. Each year, the subsistence catch seasonal limit starts at 25 sockeye salmon and often the department will raise the limit because of runs well above escapement needs. In 2020 the department did not raise the limit to 50 sockeye salmon until late in August because of an average run and concerns expressed by subsistence permit holders that had not yet reached the 25-sockeye salmon limit. Most of the subsistence harvest of sockeye salmon in the Pilgrim River has been by seine.

The Pilgrim River weir project began operations in 2003 and except for pink salmon all escapement counts were below recent years. Because of a lack of staff, the project was pulled on August 13, the earliest on record. Cumulative escapement counts were 65 king, 5,423 chum, 103,411 pink, 13,578 sockeye and 189 coho salmon (Table 4). This year's pink escapement was second only to last year's record count of 367,245 pink salmon. Although pink salmon have been the second highest salmon species harvested after sockeye salmon, there is little interest in pink salmon as harvests have only ranged from 10 to 593 fish since 2003.

ESCAPEMENT

Table 4 summarizes escapement assessments for the major index river systems of the Norton Sound and Port Clarence Districts in 2020. These assessments were often qualitative and relative to historical escapement sizes. Although high water prevented some salmon runs from being fully counted, all escapement goal ranges for salmon other than the Snake and Kwiniuk River chum salmon escapement goals were likely reached.

Department salmon counting projects in Norton Sound in 2020 included a counting tower on the Kwiniuk River and weirs on the Bonanza River, Nome River, and Solomon River. Eight additional salmon counting projects were also operated in the management area this season. The Eldorado River, Snake River and Pilgrim River had weir projects and the Fish, Inglutalik, North, Shaktoolik and Ungalik rivers had counting towers that are operated by Norton Sound Economic Development Corporation.

Aerial surveys were sporadic this year because of limited aircraft availability and villages concerned about the department visiting because of the COVID-19 pandemic. As usual, the Nome Subdistrict streams received the most intensive assessment efforts because of easier aircraft availability.

Table 1.—Norton Sound salmon catch and dollar value, 1961–2020.

Year	Total catch	Number of permits	Gross value of catch to permit holders
1961	101,711	a	a
1962	232,431	a	\$105,800
1963	224,378	a	\$104,000
1964	164,671	a	\$51,000
1965	39,203	a	\$21,483
1966	100,345	a	\$68,000
1967	74,818	a	\$44,038
1968	124,409	a	\$63,700
1969	178,972	a	\$95,297
1970	178,218	a	\$99,019
1971	141,977	a	\$101,000
1972	149,494	a	\$102,225
1973	176,797	a	\$308,740
1974	315,829	a	\$437,127
1975	251,861	a	\$413,255
1976	193,063	a	\$285,283
1977	257,325	164	\$546,010
1978	531,948	176	\$907,330
1979	350,401	175	\$878,792
1980	444,337	159	\$572,125
1981	441,734	167	\$761,658
1982	511,208	164	\$1,069,723
1983	456,420	170	\$946,232
1984	342,159	141	\$738,064
1985	180,200	155	\$818,477
1986	230,400	163	\$546,452
1987	136,283	164	\$517,894
1988	225,132	152	\$760,641
1989	92,811	110	\$319,489
1990	131,665	128	\$474,064
1991	156,789	126	\$413,479
1992	199,933	110	\$448,395
1993	263,670	153	\$368,723
1994	1,108,184	119	\$863,060
1995	181,393	105	\$356,164
1996	571,241	86	\$340,347
1997	79,141	102	\$363,908
1998	641,396	82	\$358,982
1999	23,051	60	\$76,860
2000	217,873	79	\$149,907
2001	30,849	51	\$56,921
2002	2,365	12	\$2,941
2003	20,653	30	\$64,473
2004	48,381	36	\$122,506
2005	89,669	40	\$296,154

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Year	Total catch	Number of permits	Gross value of catch to permit holders
2006	140,873	61	\$389,707
2007	152,357	71	\$572,195
2008	221,101	91	\$759,451
2009	138,737	88	\$722,167
2010	211,622	115	\$1,220,487
2011	177,167	123	\$1,269,730
2012	305,657	123	\$758,908
2013	181,247	124	\$1,183,236
2014	403,715	128	\$1,915,749
2015	369,720	128	\$1,940,408
2016	366,236	141	\$1,237,229
2017	378,561	139	\$2,788,316
2018	543,714	149	\$4,001,400
2019	381,124	145	\$2,073,586
2020	50,679	124	\$290,302
5-year avg. ^b	407,871	140	\$2,408,188
10-year avg. ^c	331,876	132	\$1,838,905

^a Information not available.

^b 2015–2019.

^c 2010–2019.

Table 2.—Norton Sound commercial salmon harvest summary by subdistrict, 2020.

		Subdistricts						Total
		1	2	3	4	5	6	
Number of permit holders		12	17	25	7	27	55	124 ^a
King	Number	19	44	121	11	236	475	906
	Weight (lbs)	152	494	1,336	102	2,529	5,408	10,021
Sockeye	Number	692	206	222	17	359	312	1,808
	Weight (lbs)	3,898	1,202	1,185	107	1,972	1,788	10,152
Coho	Number	6,639	1,963	2,011	251	1,645	2,141	14,650
	Weight (lbs)	39,911	11,330	11,210	1,528	8,936	10,915	83,830
Pink	Number	42	1,987	331	24	1,292	3,274	6,950
	Weight (lbs)	111	4,545	828	79	3,777	7,896	17,236
Chum	Number	7,098	11,530	853	378	3,864	2,642	26,365
	Weight (lbs)	48,513	81,573	5,769	2,529	26,261	18,228	182,873
Total ^b	Number	14,490	15,730	3,538	681	7,396	8,844	50,679
	Weight (lbs)	92,585	99,144	20,328	4,345	43,475	44,235	304,112

^a Total number of permit holders is not the sum of permit holders in each subdistrict because some permit holders fished in more than one subdistrict.

^b Total does not include 80 kings, 254 sockeyes, 38 cohos, 968 pinks and 13 chums retained for personal use.

Table 3.—Norton Sound salmon catch, 1961–2020.

Year	King	Sockeye	Coho	Pink	Chum	Total
1961	5,300	35	13,807	34,237	48,332	101,711
1962	7,286	18	9,156	33,187	182,784	232,431
1963	6,613	71	16,765	46,180	154,749	224,378
1964	2,018	126	98	13,567	148,862	164,671
1965	128	30	2,030	220	36,795	39,203
1966	1,553	14	5,755	12,778	80,245	100,345
1967	1,804	0	2,379	28,879	41,756	74,818
1968	1,045	0	6,885	71,179	45,300	124,409
1969	2,392	0	6,836	86,949	82,795	178,972
1970	1,853	0	4,423	64,908	107,034	178,218
1971	2,593	0	3,127	4,895	131,362	141,977
1972	2,938	0	454	45,182	100,920	149,494
1973	1,918	0	9,282	46,499	119,098	176,797
1974	2,951	0	2,092	148,519	162,267	315,829
1975	2,393	2	4,593	32,388	212,485	251,861
1976	2,243	11	6,934	87,919	95,956	193,063
1977	4,500	5	3,690	48,675	200,455	257,325
1978	9,819	12	7,335	325,503	189,279	531,948
1979	10,706	57	31,438	167,411	140,789	350,401
1980	6,311	40	29,842	227,352	180,792	444,337
1981	7,929	56	31,562	232,479	169,708	441,734
1982	5,892	10	91,690	230,281	183,335	511,208
1983	10,308	27	49,735	76,913	319,437	456,420
1984	8,455	6	67,875	119,381	146,442	342,159
1985	19,491	166	21,968	3,647	134,928	180,200
1986	6,395	233	35,600	41,260	146,912	230,400
1987	7,080	207	24,279	2,260	102,457	136,283
1988	4,096	1,252	37,214	74,604	107,966	225,132
1989	5,707	265	44,091	123	42,625	92,811
1990	8,895	434	56,712	501	65,123	131,665
1991	6,068	203	63,647	0	86,871	156,789
1992	4,541	296	105,418	6,284	83,394	199,933
1993	8,972	279	43,283	157,574	53,562	263,670
1994	5,285	80	102,140	982,389	18,290	1,108,184
1995	8,860	128	47,863	81,664	42,898	181,393
1996	4,984	1	68,206	487,441	10,609	571,241
1997	12,573	161	32,284	20	34,103	79,141
1998	7,429	7	29,623	588,013	16,324	641,396
1999	2,508	0	12,662	0	7,881	23,051
2000	752	14	44,409	166,548	6,150	217,873
2001	213	44	19,492	0	11,100	30,849
2002	5	1	1,759	0	600	2,365
2003	12	21	17,060	0	3,560	20,653
2004	22	47	42,016	0	6,296	48,381
2005	151	12	85,523	0	3,983	89,669

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Table 3.—Page 2 of 2.

Year	King	Sockeye	Coho	Pink	Chum	Total
2006	20	3	130,808	0	10,042	140,873
2007	19	2	126,136	3,769	22,431	152,357
2008	83	60	120,309	75,525	25,124	221,101
2009	84	126	87,041	17,364	34,122	138,737
2010	140	103	62,079	31,557	117,743	211,622
2011	185	369	58,917	7,141	110,555	177,167
2012	197	134	37,056	205,498	62,772	305,657
2013	151	247	53,802	8,338	118,709	181,247
2014	289	519	112,756	182,406	107,745	403,715
2015	1,288	4,119	153,928	62,888	147,497	369,720
2016	321	2,888	102,890	208,961	51,176	366,236
2017	538	2,975	191,254	20,321	163,473	378,561
2018	906	3,623	260,707	40,449	238,029	543,714
2019	1,371	6,969	139,820	75,929	157,035	381,124
2020	906	1,808	14,650	6,950	26,365	50,679
5-year avg. ^a	885	4,115	169,720	81,710	151,442	407,871
10-year avg. ^b	539	2,195	117,321	84,349	127,473	331,876

^a 2015–2019^b 2010–2019

Table 4.—Salmon counts of rivers and associated salmon escapement goal ranges, Norton Sound and Port Clarence Districts, 2020.

Stream	King salmon			Chum salmon			
	Weir/ tower count	Escapement goal range	Aerial survey count ^a	Weir/ tower count	Escapement goal range	Aerial survey count ^a	Aerial survey expansion
Salmon L.							
Grand Central R.							
Pilgrim R.	65			5,423			
Glacial L.							
Sinuk R.							
Cripple R.							
Penny R.						9	
Anvil Creek							
Snake R.	8			768	2,000 - 4,200		
Nome R.	8			2,547	1,600 - 5,300		
Flambeau R.						3,051	
Eldorado R.	21			11,252	4,400 - 14,200		
Bonanza R.	15			2,465			
Solomon R.	10			830			
Fish R.	78			9,012			
Boston Cr.							
Niukluk R.							
Ophir Cr.							
Kwiniuk R.	408	250		4,953	9,100 - 32,600		
Tubutulik R.					3,100 - 9,900		
Ungalik R.	135			7,889			
Inglutalik R.	0			2,130			
Shaktoolik R.	933			9,913			
Unalakleet R.							
Old Woman R.							
North R.	1,065	1,200-2,600		1,170			

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Stream	Coho salmon			Sockeye salmon			Pink salmon		
	Weir/ tower count	Aerial survey count ^a	Escapement goal range	Weir/ tower count	Escapement goal range	Aerial survey count ^a	Weir/ Tower count	Escapement goal range	Aerial survey count ^a
<u>Salmon L.</u>						921			
<u>Grand Central R.</u>						4,980			
Pilgrim R.	189			13,578	5,800-36,000		103,411		
Glacial L.					800 - 1,600	945			80
Sinuk R.		1,112				10			1,800,000
Cripple R.		379				5			121,000
Penny R.		349				5			20,000
Anvil Creek									
Snake R.	3,053			650			369,357		
Nome R.	3,667			411			2,124,487	13,000	
Flambeau R.		649				5			
Eldorado R. ^b	33	707		74		55	163,964		
Bonanza R.	11			27			205,329		
Solomon R.	402	596		142		26	473,696		
Fish R.	2,944			18			2,704,182		
Boston Cr.									
Niukluk R.			Combined						
Ophir Cr.			750-1,600						
Kwiniuk R.	5,373		650-1,300	87			1,747,766	8,400	
Tubutulik R.									
Ungalik R.	1,599			219			973,163		
Inglutalik R.	1,290			6			55,278		
Shaktoolik R.	4,176			204			1,985,769		
Unalakleet R.									
Old Woman R.									
North R.	1,926		550-1,100	120			659,686	25,000	

Note : Data not available for all streams. Sustainable escapement goal (SEG), biological escapement goal (BEG), and optimal escapement goal (OEG) are listed.

^a All aerial surveys are rated fair to good, unless otherwise noted.